

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application. Kindly cancel claims 1, 2, and 4-20 and add new claims 21-41 as follows:

STATUS OF THE CLAIMS:

1. cancelled herein
2. cancelled herein
3. A method for determining whether a test compound modulates the drug resistance of a cell, the method comprising:
  - a) incubating Chk1 protein in the presence of a test compound;
  - b) determining whether the test compound binds to the Chk1 protein;
  - c) selecting a test compound which binds to the Chk1 protein;
  - d) administering the test compound selected in step c) to a non-human mammal having drug resistant cells;
  - e) determining whether the test compound alters the drug resistance of the cells in the non-human mammal; and
  - f) identifying the test compound as a modulator of drug resistance of the cell if the compound alters the drug resistance of the cells in step e).
- 4-20 cancelled herein

- 21.(NEW) A method for identifying candidate compounds which modulate the drug resistance of a cell, the method comprising:
- a) determining the activity of a Chk1 polypeptide in a cell in the presence of a selected compound;
  - b) determining the activity of a Chk1 polypeptide in the cell in the absence of the selected compound; and
  - c) identifying the selected compound as a candidate compound which modulates the drug resistance of the cell if the activity of a Chk1 polypeptide in the cell in the presence of the selected compound differs from the activity of the Chk1 polypeptide in the cell in the absence of the selected compound.
- 22.(NEW) The method of claim 21 wherein the Chk1 polypeptide comprises the amino acid sequence of SEQ ID NO:2.
- 23.(NEW) The method of claim 21 wherein the cell is a cancer cell.
- 24.(NEW). The method of claim 23 wherein the cancer cell is a cultured cell.
- 25.(NEW) The method of claim 24 wherein the cultured cancer cell is a UCLA cell.
- 26.(NEW) The method of claim 23 wherein the cancer cell is a drug-resistant cancer cell.
- 27.(NEW) The method of claim 26 wherein the cancer cell is resistant to any one of doxorubicin, vinblastine or adromycin.
- 28.(NEW) The method of claim 26 wherein the cancer cell is selected from the group consisting of a breast carcinoma cell; a prostate carcinoma cell; and a lung carcinoma cell.
- 29.(NEW) The method of claim 21 wherein activity of the Chk1 polypeptide comprising the amino acid sequence of SEQ ID NO:2 is determined by measuring any one of: Chk1 phosphorylation; ability of Chk1 to phosphorylate Cdc25; or drug resistance of the cell.

30.(NEW) The method of claim 21 wherein activity of the Chk1 polypeptide is measured in the presence of a chemotherapeutic drug.

31.(NEW) The method of claim 30 wherein the chemotherapeutic drug is selected from the group consisting of doxorubicin, vinblastine, and adromycin.

32.(NEW) The method of claim 21 wherein the cell is a non-neoplastic cell.

33.(NEW) A method for screening compounds to identify compounds that increase the drug resistance of a cell, the method comprising:

- a) incubating Chk1 protein in the presence of a test compound;
- b) determining whether the test compound binds to the Chk1 protein;
- c) selecting a test compound which binds to the Chk1 protein;
- d) measuring the drug resistance of a cell comprising Chk1 to a selected drug in the presence and absence of a compound identified as a candidate compound; and
- e) identifying the candidate compound as a compound that modulates the drug resistance of the cell if the drug resistance of the cell to the selected drug differs in the presence of the candidate compound than that in the absence of the compound.

34.(NEW) The method of claim 33 wherein the Chk1 polypeptide comprises the amino acid sequence of SEQ ID NO:2.

35.(NEW) The method of claim 33 wherein the cell is a cancer cell.

36.(NEW) The method of claim 35 wherein the cancer cell is a cultured cell.

37.(NEW) The method of claim 36 wherein the cultured cancer cell is a UCLA cell.

38.(NEW) The method of claim 35 wherein the cancer cell is a drug-resistant cancer cell.

39.(NEW) The method of claim 38 wherein the cancer cell is selected from the group consisting of a breast carcinoma cell; a prostate carcinoma cell; and a lung carcinoma cell.

40.(NEW) The method of claim 33 wherein the chemotherapeutic drug is selected from the group consisting of doxorubicin, vinblastine, and adromycin.

41.(NEW) The method of claim 33 wherein the cell is a non-neoplastic cell.